

Application No. 09/695,809
SD-6337 S-92,307

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of the Claims:

1. (Currently Amended) A video display system for displaying an image on a display medium comprising:

a first video source means mounted relative to the display medium for displaying a first portion of the image at a first resolution;

a second video source means mounted relative to the first video source means and the display medium, for displaying a second portion of the image at a second resolution, ~~said second portion comprising a subset of the first portion, said second portion overlaying said first portion~~ ~~the second portion overlaying a subset of the first portion, the second portion moving over the first portion;~~

an image transformer means for generating an input to the second video source means by performing a transform, wherein the input is changeable over time and aligns the second portion to the first portion, the second portion moving over the first portion, the image transformer means comprising:

means for determining a first image plane transform by determining a correlation between an image plane corresponding to the first video source means and the display medium;

means for determining a plurality of image plane correlations between the display on the display medium of the image plane corresponding to the first video source means and an image plane corresponding to the second video source means, each of the plurality of correlations corresponding to a configuration of the second video source means, wherein the configuration of the second video source means is changeable over time and corresponds to the second portion moving over the first portion;

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means for determining a second image transform as a function of the configuration of
the second video source means, from the first image plane transform and the
plurality of image plane correlations;
means for providing the input to the second video source means, said input being
compensated for relative configurations for the first video source means, the
second video source means and the display medium,
~~means for moving the position of said second portion with respect to said first portion; and,~~
~~an image transformer for generating an input to the second video source means such that~~
~~the second video source means displays the second portion aligned with the first portion.~~
2. (Previously presented) The video display system of Claim 1, wherein the second video source means comprises a video driver and an image steerer means for directing optical energy from the video driver to the display medium.
3. (Previously presented) The video display system of Claim 2, wherein the first video source means comprises a first projector, and said video driver comprises a second projector, said image steerer means being mounted relative to the second projector.
4. (Previously presented) The video display system of Claim 3, wherein said mage steerer means comprises a mirror capable of pan and tilt motion.
5. (Previously presented) The video display system of Claim 4, wherein the pan and tilt motion of said mirror is controlled by a computer.
6. (Canceled)
7. (Canceled)
8. (Currently Amended) A method for displaying an image on a display medium comprising:
displaying with a first video source a first portion of the image at a first resolution ;
displaying with a second video source a second portion of the image at a second
resolution, said the second portion being overlaying a subset of the first portion, —

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the second portion overlaying and being movable moving over said the first portion;

generating an input to the second video source by performing a transform, wherein the input is changeable over time and aligns the second portion to the first portion,

the second portion moving over the first portion, the transform comprising:

determining a first image plane transform by determining a correlation between an image plane corresponding to the first video source and the display medium;

determining a plurality of image plane correlations between the display on the display medium of the image plane corresponding to the first video source and an image plane corresponding to the second video source, each of the plurality of correlations corresponding to a configuration of the second video source, wherein the configuration of the second video source is changeable over time and corresponds to the second portion moving over the first portion;

determining a second image transform as a function of the configuration of the second video source, from the first image plane transform and the plurality of image plane correlations; and,

providing the input to the second video source, said input being compensated for relative configurations of the first video source, the second video source, and the display medium.

providing an output from said second video source, that corresponds to the subset of the first portion of the display overlaid by the second portion, said output being compensated for the relative configurations of the first video source, the second video source, and the display medium, whereby the second portion is aligned with the first portion.

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9. (Cancelled)

10. (Currently Amended) The method of Claim 89, wherein:

the plurality of image plane correlations has sufficient number that the number of unknown parameters in the second image transform is less than the number of equations resulting from the plurality of image plane correlations; and
the second image transform is determined from a linear regression on the plurality of image plane correlations.

11. (Currently Amended) A method of determining an image transform for registration aligning of first and second images to be displayed on a display medium, wherein the second image is overlaying and moving over the first image can be displayed at various locations relative to the first image by changing the configuration of a second video source, wherein the display of the first image has an associated first image plane and the display of the second image has an associated second image plane, comprising:

determining a first image plane transform by determining a correlation between the first image plane and the display medium;

determining a plurality of image plane correlations between the display on the display medium of the first image plane and the second image plane, each of the plurality of correlations corresponding to a configuration of the second video source, wherein the configuration of the second video source is changeable over time and corresponds to the second image moving over the first image;

determining the image transform as a function of the configuration of the second video source from the first image plane transform and the plurality of image plane correlations.

12. (Currently Amended) The method of Claim 11, wherein:

the plurality of image plane correlations has sufficient number that the number of unknown parameters in the image transform is less than the number of equations resulting from the plurality of image plane correlations; and

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the image transform is determined from a linear regression on the plurality of image plane
correlations.